

Amendments to the Drawings:

The drawings have been amended to remove the header from the international application and to remove the Japanese text.

REMARKS

By this amendment, Applicants have amended the abstract to be in proper form as required by the Examiner in numbered section 3 of the office action, and have amended the drawings to remove the header from the international application and to remove the Japanese text as required by the Examiner in numbered section 2 of the office action. Applicants have amended the claims to more clearly define the invention, including eliminating the informalities noted by the Examiner in numbered section 5 of the office action and the indefinite expressions noted by the Examiner in numbered section 6 of the office action. Applicants have also added claims 24-29 to further define the invention. Claims 22 and 23, as well as non-elected claims 6-21 have been canceled without prejudice or disclaimer.

The amendments to claim 1 are supported by, e.g., paragraph 0045 of applicants' specification and Fig. 6. The amendments to claim 5 are supported by, e.g., paragraphs 0032, 0050 and 0062 of applicants' specification and Fig. 6. New claims 24-29 are supported by, e.g., paragraphs 0038 to 0046 of applicants' specification and, e.g., Fig. 6.

Applicants are providing herewith the Japanese publication mentioned on page 1 of the specification, as required by the Examiner in numbered section 4 of the office action.

In view of the foregoing amendments to the drawings, reconsideration and withdrawal of the objection to the drawings in numbered section 2 of the office action are requested.

In view of the foregoing amendments to the abstract, reconsideration and withdrawal of the objection to the abstract in numbered section 3 of the office action are requested.

In view of the foregoing amendments to the claims, it is submitted all the claims comply with the requirements of 35 U.S.C. §112, second paragraph. Therefore, reconsideration and withdrawal of the objection to the claims in numbered section 5 of the office action and the rejection of the claims under 35 U.S.C. §112, second paragraph, in numbered section 6 of the office action are requested. With respect to the Examiner's comments regarding claims 5, the Examiner's attention is respectfully directed to the Third Embodiment at paragraph 0058 *et seq.* of applicants' specification, in which the distance between the axis lines of the rotational axes of the respective suction members is changed before or at the time of rotation of said number of suction members, and thereby, the mother substrate or the small mother substrate on which a scribe line is at least partially drawn is divided along a portion of said scribe line.

In view of the cancellation of claims 22 and 23, the rejection of these claims in numbered section 8 is moot. To the extent the Examiner deems this rejection to apply to any of the claims now in the application, it is submitted U.S. Patent No. 7,128,516 to Sugiyama *et al.* does not disclose and would not have rendered obvious the presently claimed invention for the reasons set forth hereinafter.

Claims 1, 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0155085 A1 to Takamatsu *et al.* in view of Sugiyama *et al.* Applicants traverse this rejection and request reconsideration thereof.

Claim 1 is directed to a method for processing a substrate including the step of drawing a scribe line on a mother substrate and dividing the mother substrate along the drawn scribe line. When a plurality of mother substrates or a plurality of small mother substrates (each of which is a portion that has been divided from a mother substrate) are simultaneously conveyed, each of the mother substrates or each of the small mother substrates is held through suction of a first main surface of the mother substrate or a first main surface of the small mother substrate using one of a number of suction members, each of which is provided with a suction surface and an axis of rotation. Then all of the suction members are rotated approximately simultaneously, and thereby, the first main surface and a second main surface of each of the mother substrates or each of the small mother substrates are turned over in the upward and downward direction. Then the second main surface of each of the mother substrates or each of the small mother substrates is sucked by a suction member for receiving a substrate provided with a suction surface which is movable to a such a location as to face the second main surface, and each of the mother substrates or each of the small mother substrates is passed in the upward downward direction while being held. See, e.g., Fig. 6.

The Takamatsu *et al.* publication discloses, *inter alia*, that first, as shown in FIG. 1(a), a bonded glass substrate 1 is placed on a first scribing apparatus such that the A-side glass substrate is laid over the B-side glass substrate, and the A-side glass substrate is scribed using a glass cutter wheel 2 so as to form a scribe line Sa. Next, the bonded glass substrate 1 in which the scribe line Sa was formed in the A-side glass substrate is turned over, and transported to a second scribing apparatus. In this second scribing apparatus, the B-side glass substrate of the bonded glass substrate 1 is scribed using a glass cutter wheel 2 so as to form a scribe line Sb

which is parallel to the scribe line Sa as shown in FIG. 1(b). As admitted by the Examiner, the Takamatsu *et al.* publication does not disclose how the bonded glass substrate is turned over.

The Sugiyama *et al.* patent discloses that while periphery or peripheries of workpiece(s) W lifted in floating fashion by simultaneous suction and expulsion of gas(es) between pair(s) of first and second, or upper and lower, transport stages 14, 15 is/are retained by plurality of elevator pins 16, respective transport stage(s) is/are inverted vertically and workpiece(s) is/are transferred from upper first transport stage(s) to lower second transport stage(s) such that workpiece(s) W is/are lifted in floating fashion thereabove by simultaneous suction and expulsion of gas(es) in accompaniment to lowering of respective elevator pin(s) at said first transport stage(s).

Thus, the Sugiyama *et al.* patent only discloses a method in which a workpiece is turned over by rotating a pair of members around the same axis in a state where the workpiece is held between the two members which remain in such a state as to face each other. This patent does not disclose that when a plurality of mother substrates or a plurality of small mother substrates (each of which is a portion that has been divided from a mother substrate) are simultaneously conveyed, each of the mother substrates or each of the small mother substrates is held through suction of a first main surface of the mother substrate or a first main surface of the small mother substrate using one of a number of suction members, each of which is provided with a suction surface and an axis of rotation, then all of the suction members are rotated approximately simultaneously, and thereby, the first main surface and a second main surface of each of the mother substrates or each of the small mother substrates are turned over in the upward and downward direction. This

patent also does not disclose that the second main surface of each of the mother substrates or each of the small mother substrates is sucked by a suction member for receiving a substrate provided with a suction surface which is movable to a such a location as to face the second main surface, and each of the mother substrates or each of the small mother substrates is passed in the upward downward direction while being held.

Thus, even a combination of Takamatsu *et al.* and Sugiyama *et al.* does not allow one of ordinary skill in the art to practice a method using a number of sets of suction members, each of which having an axis for rotation, in such a manner that they are movable, and passing substrates between different sets of facing suction members. Accordingly, the presently claimed method is patentable over combination of Takamatsu *et al.* and Sugiyama *et al.*

Claims 1-3, 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takamatsu *et al.* in view of Sugiyama *et al.* and further in view of U.S. Patent No. 7,131,562 to Ueyama *et al.* Applicants traverse this rejection and request reconsideration thereof.

The Examiner has cited the Ueyama *et al.* patent as allegedly showing dividing a mother substrate into strips. However, clearly nothing in Ueyama *et al.* would have remedied the remaining deficiencies of Takamatsu *et al.* and Sugiyama *et al.* Accordingly, the presently claimed method is patentable over combination of Takamatsu *et al.*, Sugiyama *et al.* and Ueyama *et al.*

Claims 1-5, 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takamatsu *et al.* in view of Sugiyama *et al.* and Ueyama *et al.* further in view of U.S. Patent No. 4,140,258 to Gray. Applicants traverse this rejection and request reconsideration thereof.

The deficiencies of Takamatsu *et al.* in view of Sugiyama *et al.* and Ueyama *et al.* are noted above. It is submitted the Gray patent does not remedy these deficiencies.

The patent to Gray discloses methods and apparatus for separating glass sheets into separate sheet portions in which, for separating glass sheets, especially sheets of wired glass, into separate sheet portions and stacking the sheet portions in spaced stacks, the sheets are cut to define the sheet portions, which are gripped by respective relatively movable groups of suction gripping devices. The cutting may be effected by scoring the glass sheet before it is gripped by the suction devices, and then snapping it either before or after gripping it with the suction devices. The sheets may be lifted from a roller delivery conveyor into engagement with the suction gripping devices by a series of transverse lifting tines. The groups of suction gripping devices are then moved apart to separate the cut sheet portions, and in the case of wired glass this also severs the wires. The suction gripping devices are mounted on a carriage so that, while still held by the suction gripping devices, the separated sheet portions can be transported laterally to a stacking station, at which they are released to drop on to respective stacks of similar sheet portions on a stacking table. A transfer carriage with lifting arms is provided to transfer the stacks to the pivoted arms of a tilt table for swinging the stacks into a vertical position ready for subsequent removal. It does not appear, however, that the Gray patent discloses that each suction gripping device is rotatable around a longitudinal axis and does not disclose that the distance between the axis lines of the rotational axes of the respective suction members is changed before or at the time of rotation of the number of suction members (see claim 4) or that, thereby, a mother substrate or a

small mother substrate on which a scribe line is at least partially drawn is divided along a portion of said scribe line (see claim 5).

Accordingly, the presently claimed method is patentable over combination of Takamatsu *et al.*, Sugiyama *et al.* Ueyama *et al.* and Gray.

It is submitted newly added claims 24-29 are also patentable over the prior art of record.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 1343.46164X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

/Alan E. Schiavelli/

Alan E. Schiavelli

Registration No. 32,087

AES/at
(703) 312-6600